

PROCEEDINGS
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**ALLOSEBASTES, NEW SUBGENUS FOR SEBASTODES
SINENSIS, SCORPAENID FISH OF THE GULF OF CALIFORNIA¹**

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The species of *Sebastes* that Gilbert (Proc. U. S. Nat. Mus., vol. 13, 1890, pp. 81-82) described from the Gulf of California as *Sebastichthys sinensis* is so distinct as to warrant its separation as the type and sole member of a new subgenus.

Allosebastes, new subgenus

The most notable character of this subgenus is the reduction of the anal soft-rays to 5—the number characteristic of *Scorpaena* and of most other tropical genera (Barnhart and Hubbs, Bull. Scripps Inst. Oceanogr. Univ. Calif., vol. 5, 1946, p. 373). As is often true, the value of this character lies in its consistency rather than in the amount of difference. The tropical genera normally with 5 anal soft-rays very seldom deviate from that number and all of the many other species of *Sebastes*, with rare individual exceptions, have 6 to 14 anal soft-rays, usually 6, 7, 8, or 9 (Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 2, 1898, pp. 1765-1835; Matsubara, Trans. Sigenkagaku Kenkyusko, vol. 1, 1943, p. 97).

The other fins have a ray formula that is normal for the genus *Sebastes*: dorsal, XIII, 12 (rather low but not uniquely so in number of soft-rays); caudal, 7 + 7 (principal rays); pectoral, i, 9, vii = 17 in each fin; pelvic, I, 5. The pertinence of the species to *Sebastes* or to a very closely related segregate is confirmed by such characters as the scaly, only moderately spiny and little distorted head, the posteriorly narrowed, unkeeled and unspined suborbital stay, the complete dentition, and the normal fins. The definite though thick and blunt intromittent organ of the male is similar to that of the species of *Sebastes*, all of which, so far as known, bear prolarvae.

Other more or less extreme though less trenchantly distinct characters of *S. sinensis* are the smooth, mostly cycloid scales; the unswollen lower pectoral rays; the excessively long anal spines (the second extends well beyond the longest soft-rays, the third almost reaches the tip of the longest soft-ray); the closely clumped subparallel upper 3 preopercular spines (the lower 2 are well separated and divergent); the protuberant posterior end of the mandible, almost resembling a flat spine; and, especially, the very firm, well-exposed suborbital stay (second suborbital), with the bone widened about the unusually large pore, which has a somewhat raised and roughened rim.

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The general distinctiveness of this species, as well as its reduced number of anal rays, is correlated with its restriction to the essentially tropical fauna of the Gulf of California, where it alone represents this speciose genus of the North Pacific (Jordan and Evermann, *l. c.*, 1898, pp. 1765-1835; Matsubara, *l. c.*, vol. 2, 1943, pp. 175-252, under *Sebastes*). Except for one species or species-complex ranging from Perú to South Africa, the entire genus is otherwise confined to the more temperate and to the boreal waters of the North Pacific (Hubbs, *Pac. Sci.*, vol. 4, 1950, p. 70). The disjunction of populations, both in the Southern Hemisphere and in the Gulf of California, presumably dates from some Pleistocene period of oceanic cooling (Hubbs, *Jour. Mar. Res.*, vol. 7, 1948 (1949), p. 463). There were presumably several such periods of cooling and *Sebastes sinensis* has probably been separated from its congeners since middle or early Pleistocene time.

It is not wholly clear, however, that *Sebastes (Allosebastes) sinensis* represents an offshoot from *Sebastes*, with the number of anal rays independently reduced. A thorough revision of the American species, with attention to such anatomical details as Matsubara (*l. c.*, 1943, vols. 1-2) used in his study of the species of the western Pacific, will be required before the phyletic position of *S. sinensis* can be interpreted with confidence. It may represent a group, or stage of evolution, now largely extinct, that is transitional between the temperate and the tropical genera, or *vice versa*. It may be shown to be so distinct as to warrant full generic separation. In some respects it resembles *Helicolenus*, from which it differs at least in the unkeeled suborbital stay and in the number of dorsal spines, 13 rather than 12 (a distinction of great significance in this group, because of the consistency of the difference). From each of the few genera with 13 dorsal spines and 5 anal soft-rays, as well as from all other genera except *Sebastes*, as these were distinguished by Matsubara, *S. sinensis* differs in several characters of acknowledged generic import.

Not having examined the species and not having noted its more distinctive features, classifiers of *Sebastes* have variously interpreted the relationships of *S. sinensis* in the large complex of species. Eigenmann and Beeson (*Am. Nat.*, vol. 27, 1893, p. 670) classed it, along with a miscellaneous assortment of other species, in their new genus *Pteropodus*. Cramer (*Proc. Calif. Acad. Sci.*, ser. 2, vol. 5, p. 600) associated it in his key with *zacentrus*, *elongatus*, *levis* and *rubrivinctus*, leaving all in *Sebastes* without even subgeneric separation. Jordan and Evermann (*Rept. U. S. Comm. Fish and Fish.*, 1895 (1896), p. 431 and *Bull. U. S. Nat. Mus.*, no. 47, pt. 2, 1898, p. 1776), essentially adopting Cramer's arrangement, combined *sinensis* with the 4 species just named in their new subgenus *Hispanicus*.

This note is based on a recent examination of the holotype of *Sebastes sinensis* (U.S.N.M. No. 43085). Only the holotype and 1 paratype have been collected, both at Albatross Station 3015 in the Gulf of California, at a depth of 145 fathoms, at 29° 19' 00" N. Lat., 112° 50' 00" W. Long.